nomogram were determined by concordance index(C-index) and calibration curve.

Results: 47% of the patients had extraprostatic extension, 36% had positive margin, and 20% had Gleason Score 8-10. Nomograms were developed for the predicted probabilities of having the indications of adjuvant radiation therapy(Fig1ABC). The calibration curve for probabilities showed good agreement between prediction by nomogram and actual observation (Fig 1DEF). The C-index of the nomograms for predicting extraprostatic extension disease, positive margin, and Gleason Score 8-10 were 0.799, 0.746, 0.879, respectively. The risk of having one of the indications of adjuvant radiation therapy increased with increases in predictors except for T stage for predicting Gleason Score 8-10(p=0.25).

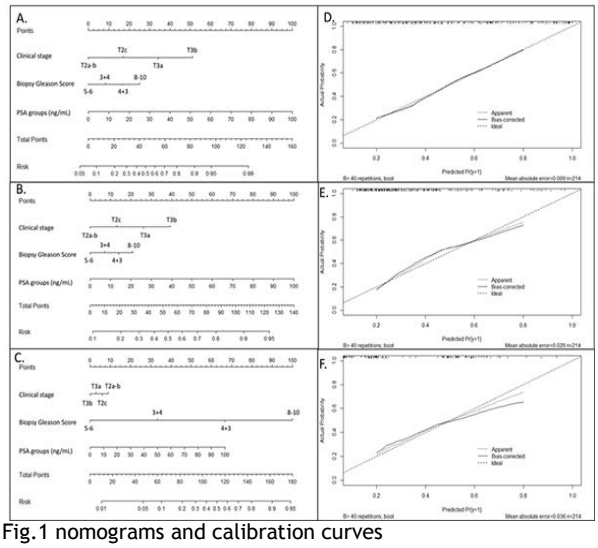

Fig.1 nomograms and calibration curves

Conclusion: We produced nomograms that may accurately predict the probabilities of having indications for adjuvant radiation therapy after RP in men with localized prostate cancer, which may contributes to properly selecting initial treatment option.

EP-1341

Single-nucleotide polymorphisms associated with toxicity to radiotherapy in prostate cancer patients

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Purpose or Objective: Together with surgery, radiotherapy (RT) is a cornerstone in the treatment of prostate cancer. Despite similar prognostic factors, a wide inter-patient variability was observed in tumour response and side effects. Many studies have been made to understand molecular behaviour of tumours exposed to ionizing radiation. It has been hypothesized that single-nucleotide polymorphisms (SNPs) impact response and adverse reactions for patients (pts) receiving RT. We focused on the analysis of some candidate SNPs in pts treated with RT for prostate cancer.

Material and Methods: Between January and September 2014, 66 pts with prostate cancer underwent RT with radical or adjuvant intent. RT was delivered using 4-6 coplanar 10-18 MV beams at a dose of 70-80 Gy (2.5-2 Gy/fraction). At baseline and weekly during treatment, acute gastrointestinal (GI) and genitourinary (GU) toxicities were scored by a fixed questionnaire. The RTOG toxicity scale served as a basis, but additional symptoms were evaluated as well. Genotyping was performed from whole blood samples at the beginning of RT. DNA was purified with the QIAamp DNA Mini Kit. Assays of samples were performed using the "Radiotherapy response" kit (Diatech Pharmacogenetics, Italy). Pyrosequencing analysis was carried on the PyroMark Q96 ID (Biotage, Sweden). Status of candidate SNPs (GSTP1 A313G, RAD51 G135C, XRCC1 G28152A, XRCC3 A4541G and XRCC3 C18067T) was unknown to interviewers and participants.

Results: Treatments were delivered successfully without any interruption. Grade 1, Grade 2 and Grade 3 GI toxicities were observed in 33%, 12% and 3% of the pts, respectively, during the whole period. Grade 1, Grade 2 and Grade 3 GU toxicities were seen in 50%, 32% and 15% of the pts. Eight items of GI toxicity and six items of GU toxicity were used to calculate, for each patient, his own toxicity score. Time of onset of side effects was taken into account too. Using R statistical program, no significant relation was found between total toxicity or precocity of side effects and the mutational status of our 5 candidate loci, except for GSTP1 and toxicity. Kruskal-Wallis test demonstrated that GSTP1 status (wild-type, heterozygous and mutant) is a strong predictor of GI effects, especially diarrhea (p=0.01), frequency of stools (p=0.01), incontinence (p=0.01) and rectal blood loss (p=0.02).

Conclusion: Overall, RT is a well tolerated therapy for prostate cancer. Five SNPs were analyzed in four genes of relevance for RT. GSTP1 showed to be the most important SNP regarding GI toxicity to RT in pts treated for prostate cancer. Other examined SNPs did not prove to play a significant role in this particular subset of pts. Our findings require validation in larger replication studies and open to future clinical trials. One of the next steps will be evaluate if GSPT1 is associated with response to RT too. This would permit personalization and optimization of RT for each prostate cancer patient.

EP-1342

F-18Fluorcholine-PET/CT guide salvage therapy in biochemical failure of prostate cancer

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Purpose or Objective: To describe the F-18Fluorocholine PET/CT (cPET/TC) activity after biochemical failure in localized prostate cancer. To analyze the response to cPET/TC-guided salvage therapy.

Material and Methods: N: 80 patients(p) with cPET/TC between 2006-2012, 64p at time of biochemical failure.
At diagnosis 15p T1 (18.5%), 37p T2 (46.4%), 23p T3 (28.8%) and 5p T4 (6.3%). N0 (87.5%). Gleason score: 6: 30p (37.6%), 7: 27p (33.8%),≥ 8: 20p (25.1%), missing: 3p (3.8%). Baseline median PSA 9.0 ng/ml. [0.9-114.5]
Initial treatment: 45p (56.4%) prostatectomy, 13p (16.3%) radiotherapy and hormones 2.5 years, 11p (13.8%) radiotherapy and hormones 6 months, 7p (8.8%) radiotherapy alone and 4p (5%) had hormones alone.
cPET/TC -guided salvage treatments were: 23 radiotherapy (36%), 2 brachytherapy (3.1%), 8 radiotherapy and hormones (12.5%), 29 hormones (45.3%), 1 chemotherapy (1.6%) and 1 radical protatectomy (1.6%).

Results: Median time from diagnosis to cPET/TC failure: 44.03 months [2.37-126.83]. Median PSA values were 1.69 ng/ml [0.1-70.6].
cPET/TC local failure(LF) occurred in 39p (60.9%), nodal failure(NF) in 15p (23.4%) and metastasic failure(MF) in 10p (15.6%).
With a median follow up of 55 m after rescue treatment, 15p (23.4%) had biochemical failure again. At 5 years biochemical relapse free survival (BRFS) was 65%. Overall survival 5y: 91% (median: 119 months).
BRFS was 59% without LF vs 83% with LF (p 0.26)
BRFS was 75% without NF vs 30% with NF (p 0.065)